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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,756	06/23/2006	Bennie Josephus De Maagt	NL040001US1	1204
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EXAMINER BOWMAN, MARY ELLEN				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/596,756

Applicant(s)

DE MAAGT ET AL.

Examiner

MARY ELLEN BOWMAN

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed October 27, 2008 have been fully considered but they are not persuasive. Applicant's arguments regarding claims 1 and 11, and the claims that depend therefrom are not persuasive for two reasons. First, Applicant's argument that the primary reference does not teach a getter provided in the outer envelope is incorrect. The outer envelope of a lamp contains all of the constituent parts of a lamp, therefore, the teaching of the primary reference, Toia, that a getter is contained within the lamp, is within the purview of the claim language. Secondly, Applicant argues that the third reference, Deguchi, fails to teach the volume of the outer envelope. However, as explained in the first Action, Deguchi teaches the volume of the inner envelope, and based on the well known mathematical equation $\Pi r^2 l$, one of ordinary skill in the art would easily be able to determine the volume of the outer envelope. Therefore, Examiner's rejections regarding claims 1-4 and 11-14 are maintained.

Claim Rejections - 35 USC § 103

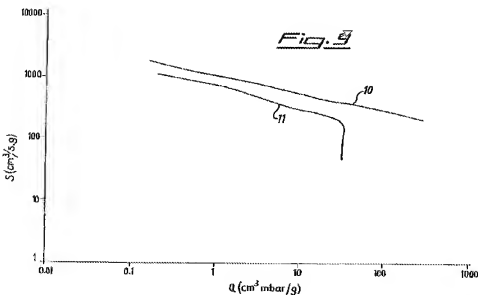
The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toia et al., USPN 6,521,014 B2, published 18 February 2003 (hereinafter referred to as "Toia") in view of Nagasawa et al., USPN 5,432,399, published 11 July 1995 (hereinafter referred to as "Nagasawa") and further in view of Deguchi, JP 2004-220880 A, published 05 August 2004

(hereinafter referred to as "Deguchi"). Note: The English translation of Deguchi is cited in this Office Action.

Regarding claim 1, Toia teaches **a discharge lamp** (e.g., col 1, line 21; "lamps") **comprising: a getter being provided in the outer envelope** (e.g., col 1, lines 21-25; "an example is the use in lamps [i.e., in lamps is considered to mean within lamps, which is synonymous with "in the outer envelope" because all of the components are in the outer envelope], particularly the fluorescent ones which are filled with noble gases at pressures of a few tens of millibars, wherein the NEG alloy [i.e., the getter] has the purpose of removing...gases"), **the getter comprising at least 2.5 mbar.ml nitrogen** (e.g., Fig 9 below, curve 10; Curve 10 depicts $100 \text{ cm}^3 \cdot \text{mbar/g}$ absorbed nitrogen, which for 0.2g as used in Toia, would equate to $20 \text{ cm}^3 \cdot \text{mbar}$ or $20 \text{ mbar} \cdot \text{ml}$, which is well above $2.5 \text{ mbar} \cdot \text{ml}$).



Regarding claim 11, Toia teaches **a method of manufacturing a discharge lamp** (e.g., col 1, line 21; "lamps"), **a getter being provided in the outer envelope** (e.g., col 1, lines 21-25;

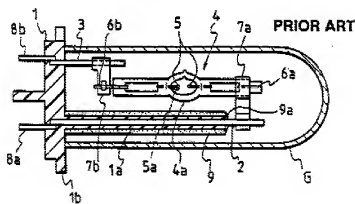
“an example is the use in lamps, particularly the fluorescent ones which are filled with noble gases at pressures of a few tens of millibars, wherein the NEG alloy [i.e., the getter] has the purpose of removing...gases”), **the method including: activating the getter for reducing the amount of nitrogen in the outer envelope** (e.g., col 4, lines 25 and 31-33; “the NEG alloys of the invention [i.e., the getter] can be activated...once activated, these alloys are able to work for the sorption of gases such as...nitrogen”), **after activation the getter comprising at least 2.5 mbar.ml nitrogen** (e.g., Fig 9 above, curve 10; Curve 10 depicts $100 \text{ cm}^3 \cdot \text{mbar/g}$ absorbed nitrogen, which for 0.2g as used in Toia, would equate to $20 \text{ cm}^3 \cdot \text{mbar}$ or 20 mbar.ml , which is well above 2.5 mbar.ml).

Regarding claims 1 and 11, Toia fails to teach the specific components of a discharge lamp.

Nagasawa, in the same field of endeavor of discharge lamps, teaches **a high-pressure discharge lamp** (e.g., col 1, lines 8-9; “a discharge lamp apparatus”) **comprising: an outer envelope** (e.g., col 1, line 43; “G designates an ultraviolet-ray shielding globe”; see Figure 4 below) **in which a discharge vessel is arranged around a longitudinal axis** (e.g., col 1, line 19; “an arc tube 4”; see Figure 4 below, arc tube 4 is arranged around a longitudinal axis of outer envelope G), **the discharge vessel enclosing, in a gastight manner, a discharge space provided with an ionizable filling** (e.g., col 3, lines 19-20; “a starting rare gas, mercury and a metal halide [i.e., an ionizable filling] are sealed in the glass bulb 12”), **the discharge vessel having a first and a second mutually opposed neck-shaped portion** (e.g., Figure 4, discharge vessel 4 has glass bulb 4a and two mutually opposing neck shaped portions attached to bulb 4a) **through which a first and a second current supply conductor** (e.g., col 1, lines 23-24; “lead

wires 6a and 6b are electrically connected to the respective electrodes 5”), **respectively, extend to a pair of electrodes arranged in the discharge space** (e.g., col 1, lines 21-22; “the arc tube 4 has a sealed glass bulb 4a in which electrodes 5 are provided in opposition to each other”), **a lamp base of electrically insulating material supporting the discharge vessel via the first and second current supply conductors** (e.g., col 1, lines 17-21; “a pair of metal lead supports 2 and 3...projecting from an insulating base 1...and an arc tube 4, which is a discharge lamp body, supported by the lead supports 2 and 3”), **the lamp base also supporting the outer envelope** (e.g., Figure 4 below, lamp base 1 supports outer envelope G), **the outer envelope enclosing the first and second current supply conductors** (e.g., Figure 4 below, outer envelope G encloses first and second current supply conductors 6a and 6b).

FIG. 4



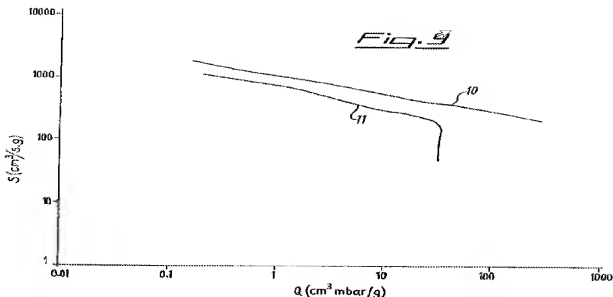
Regarding claims 1 and 11, it would have been obvious to one of ordinary skill in the art to include the above listed well known components in a discharge lamp as mentioned in the primary reference, Toia, because said components provide the well known benefit of powering a discharge lamp to produce light.

Toia and Nagasawa fail to teach the volume of the outer envelope.

Deguchi teaches **the outer envelope having a volume of equal or less than 2 cc** (e.g., [0067]; “airtight container 1a [i.e., discharge vessel] maximum inside diameter of 2.4 mm, content volume of 0.025 cc...outside pipe OT...the inside diameter of 7 mm”; Note: The volumes of the outer envelope [i.e., outside pipe] and the discharge vessel [i.e., airtight container] are related to their inside diameters by the equation $\Pi r^2 l$ (where r is half the inside diameter and l is the length of the tube), therefore, the volume of the discharge vessel is proportional to the square of half its diameter and the volume of the outer envelope is proportional to the square of half its diameter. Since the volume of the discharge vessel is 0.025 ccs, the volume of the outer envelope would necessarily be on the order of 0.2cc’s, which is within the range of the claimed 2cc’s or less). Deguchi further teaches small lamps have the added benefit of use in a wide variety of applications, such as vehicle headlights, which require a very small size ([0004]).

Regarding claims 1 and 11, it would have been obvious to one of ordinary skill in the art to utilize an outer envelope of 2 cc’s or less as taught by Deguchi, because such a small lamp has the well known benefit of use in a variety of applications that require small size, such as vehicle headlights.

Regarding claim 2, Toia, Nagasawa, and Deguchi teach the invention as explained above regarding claim 1, and Toia further teaches **the getter comprises at least 5 mbar.ml nitrogen** (e.g., Fig 9 below, curve 10; Curve 10 depicts 100 cm³.mbar/g absorbed nitrogen, which for 0.2g as used in Toia, would equate to 20 cm³.mbar or 20 mbar.ml, which is well above 5 mbar.ml).



Regarding claims 3 and 12, Toia, Nagasawa, and Deguchi teach the inventions as explained above regarding claims 1 or 2 and 11 respectively, and Toia further teaches **the material of the getter is selected from the group formed by yttrium, tantalum, niobium, titanium, thorium, hafnium, zirconium and vanadium** (e.g., col 1, lines 30-32; “generally these alloys have zirconium and/or titanium as main components”).

Regarding claim 4, Toia, Nagasawa, and Deguchi teach the invention as explained above regarding claims 1 or 2, and Toia further teaches **the getter comprises an alloy of zirconium and aluminum or a zirconium-cobalt mixed metal alloy** (e.g., col 1, line 34; “Zr-Al alloys”; col 1, lines 57-58; “Zr-Co-A alloys, wherein A is an element selected among yttrium, lanthanum...”).

Regarding claim 6, Toia, Nagasawa, and Deguchi teach the invention as explained above regarding claim 1, and Nagasawa further teaches **the outer envelope is free from a sealed exhaust tube** (Figure 2 below, no sealed exhaust tube).

Regarding claim 13, Toia, Nagasawa, and Deguchi teach the invention as explained above regarding claims 11 or 12, and Toia further teaches **the getter is activated by inductive heating** (e.g., col 4, lines 8-9 and 25-26; “an induction oven...[is] preferred...the NEG alloys of the invention can be activated at temperatures comprised between 300 and 500 °C”).

Regarding claim 14, Toia, Nagasawa, and Deguchi teach the invention as explained above regarding claims 11 or 12, and Toia further teaches **the getter is active as getter for hydrogen during life of the discharge lamp** (e.g., col 1, lines 24-26; “NEG alloy has the

purpose of removing traces of...hydrogen and other gases, thus maintaining the suitable atmosphere for the lamp functioning”).

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toia in view of Nagasawa and further in view of Deguchi, as applied to claim 1 above, and further in view of Tu, USPN 6,586,878 B1, published July 1, 2003 (hereinafter referred to as "Tu").

Regarding claim 5, Toia, Nagasawa and Deguchi teach the invention as explained above regarding claim 1, but fail to teach the position of the getter.

In the same field of endeavor of high pressure discharge lamps, Tu teaches **the material of the getter is provided to a connection conductor connected to the second supply conductor and running alongside the discharge vessel** (getters 31 and 37 running alongside discharge vessel). Tu further teaches the positioning of the getter ensures uniform voltage characteristics within the lamp, thereby providing more uniform emission (col 3, lines 55-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the getter of the combined references on a connection conductor, as taught by Tu, because the placement of the getter ensures uniform light emission within the lamp.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toia in view of Nagasawa and further in view of Deguchi, as applied to claim 1 above, and further in view of Barthelmes et al., USPN 5,037,342, published August 6, 1991 (hereinafter referred to as "Barthelmes").

Regarding claim 7, Toia, Nagasawa and Deguchi teach the invention as explained above regarding claim 1, but fail to teach a tube for inserting nitrogen during the manufacturing of the lamp.

In the same field of endeavor of high pressure discharge lamps, Barthelmes teaches **the lamp base comprises a tube for providing a nitrogen atmosphere in the outer envelope during manufacturing of the high pressure discharge lamp** (col 7, lines 64-65, tube 27). Barthelmes further teaches the purpose of introducing nitrogen into the outer envelope is to remove contaminants (col 7, lines 64-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a tube in the base of the lamp in order to provide nitrogen into the outer envelope of the lamp, because nitrogen serves to remove impurities from the outer envelope, thereby ensuring proper operation of the lamp.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toia in view of Nagasawa and Deguchi and further in view of Barthelmes, as applied to claim 7 above, and further in view of Niimi, USP App. Pub. No. 2002/0060520 A1, published May 23, 2002 (hereinafter referred to as "Niimi").

Regarding claim 8, Toia, Nagasawa, Deguchi and Barthelmes teach the invention as explained above regarding claim 7, but fail to teach the tube is metal.

In the same field of endeavor of high pressure discharge lamps, Niimi teaches **the tube is made from a metal or from a NiFeCr alloy** (Abstract; metal-made seamless pipe). Niimi further teaches the purpose of using a metal tube if the superior mechanical strength and superior gastightness of the metal tube (Abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a metal tube to impart nitrogen into the outer envelope of the lamp, because metal has superior mechanical strength and gastightness.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARY ELLEN BOWMAN whose telephone number is (571) 270-5383. The examiner can normally be reached on Monday-Thursday, 7:30 a.m.-6:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. B./
Examiner, Art Unit 2879

/NIMESHKUMAR D. PATEL/
Supervisory Patent Examiner, Art Unit 2879